



Adult education on digital, health and data literacy for citizen empowerment

# SPANISH CO-CREATION WORKSHOPS SUMMARY



Co-funded by  
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# Summary

The TRIO project aims to provide adult education in digital, health and data literacy for the empowerment of citizens. A digital learning platform will be created that will ensure adaptation to the changing needs of users, technology, and context. Therefore, it is necessary to understand individuals in context, which led us to the approach of co-creation workshops.

The co-creation workshops were research sessions designed to identify the main difficulties in accessing wellbeing and health-related information via the internet. The TRIO project provides online activities with the use of games as a playful way of learning. One of the aims was to identify the games that each of the target groups of the project (18-35 years; 36-50 years and 51+ years) prefer to use for learning. The sessions were carried out in a relaxed atmosphere with groups of people of the same age and without the use of computers. The sessions took place in 5 different European countries: Portugal, Spain, Netherlands, Germany, Romania, in February/March.

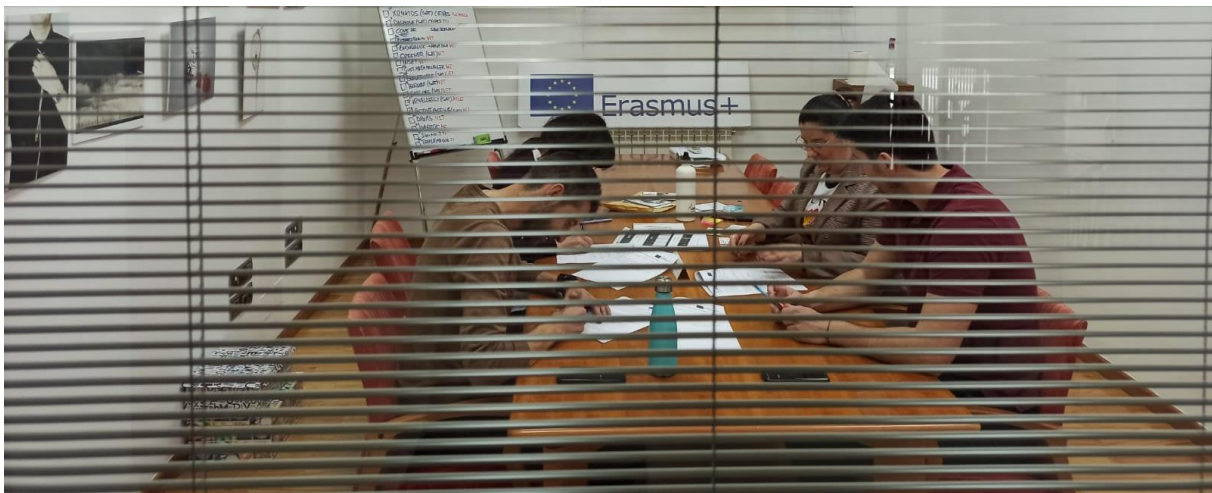


Figure 1 – The 3 Groups making an Ice-break game. Activity 1: Warm up - 2 truths and 1 lie.

## How the workshops were held in Spain

The co-creation workshops carried out with the target groups in Spain involved 9 people, 6 women and 3 men, representing the TRIO age groups. All groups had 3 participants. They were conducted by the same facilitator on different days in Yecla in March 2023. Information about the workshop and the consent form were provided prior to the sessions and were signed on the spot. The event lasted about 1h 30m and overall, everyone felt very satisfied. All participants showed interest in being involved in the project and receiving information in the future.

The participants got to know each other and started to relax by doing an initial icebreaker. They were asked to introduce themselves using “2 truths and a lie”. They had to work out which one was a falsehood. This activity was very well received by the participants and created a nice and satisfying moment.

## Outcomes of the co-creation workshop

In the next activity participants were asked to choose 6 cards and to sort them by difficulty level. These cards contained a goal and a practical description of that goal. The cards were grouped by TRIO project themes: 1) Digital Literacy 2) Health Literacy 3) Data Literacy.



Figure 2 – Activity 2: What are my biggest difficulties regarding health content? Choose and order a group of difficulty cards.

The following tables show the questions asked in the cards, with only the objectives and the corresponding answers, ordered by difficulty (from 1 or most difficult to 6 or least difficult). The two rows highlighted in the tables are the selected difficulties, as they correspond to the difficulties that all the participants considered to be the most difficult.

Table 1 - List of difficulties related to digital literacy and order of responses by age group.

DIGITAL LITERACY (Difficulties)	18-35	36-50	51+
<b>a. Make use of your cell phone's reminder feature.</b> Can I make use of my mobile phone's reminder function to notify me of medical appointments or exams?	6	5	
<b>k. Make use of an app to track my health.</b> Can I use an app to track my weight, blood pressure, and sugar levels?		6	4
<b>l. Become familiar with information data with graphs.</b> Do I understand health-related graphs, such as the one showing the transmission of Covid 19?	1		3
<b>m. Ability to access health information on the internet.</b> If I lose the instructions for a medicine, can I go online and look for it?	5		
<b>p. Understand new types of health information, such as using 3D images of a body.</b> Can I better understand my doctor when she/he shows me an organ in a 3D image?	2	3	5
<b>s. Identify which digital health services are available.</b> Are there different digital health services that are useful but I do not know them?	3	1	1
<b>v. Ability to use the digital services that are available.</b> Do I understand how to use digital health services that are available? (e.g., Insurance Health Application)	4	4	6
<b>x. Ability to buy health products online.</b> Can I identify if an online store is safe and legit?		2	2

All questions were chosen by at least one of the groups, however, results show that questions a, k, m and v did not have too much interest for the three groups. Questions l and x were the ones with more discrepancies among age groups, since while the 18-35 and 51+ groups selected the fact of becoming

familiar with information data with graphs (question l) within their main difficulties related to digital literacy, the 36-50 group did not consider it as a relevant difficulty, and the 18-35 group does not consider the fact of buying health products online as a main difficulty, but the 36-50 and the 51+ groups do. There may be several possible explanations for this.

First, younger individuals have grown up in a more digitally connected world and are more familiar with using technology, including online shopping. They are generally more comfortable with using online platforms to make purchases, including health products. In contrast, older individuals may have had less exposure to technology during their formative years, making it more challenging for them to adopt digital tools and processes.

Second, younger individuals may have a greater trust in online platforms and feel confident that their personal and financial information is secure when purchasing health products online. This could be due to their higher level of familiarity with online transactions and the increased use of online platforms by retailers and healthcare providers.

Third, younger individuals may be more willing to take risks and experiment with new technologies, including online shopping, while older individuals may be more risk-averse and less likely to try something new. However, it is important to note that these are general trends and do not apply to every individual within these age groups. There may be younger individuals who are not comfortable with online shopping, and older individuals who are very skilled at using digital tools. Digital health literacy is a complex and multifaceted concept that depends on various factors, including education, income, and cultural background.

Overall, the difficulties that gained the most consensus was "s. **Identify which digital health services are available**", followed by "p. **Understand new types of health information, such as using 3D images of a body.**"

Table 2 presents data on health literacy.

Table 2 - List of difficulties related to health literacy and order of responses by age group.

HEALTH LITERACY (Difficulties)	18-35	36-50	51+
<b>g. Know how to look for more information.</b> If I want more information about my health, do I know what to look for?	4	4	4
<b>n. Ability to understand health information.</b> Can I understand the instructions on a medication?	2	3	3
<b>q. Make use of the social media for getting health information.</b> Can I use social media to find out health information?			2
<b>r. Identify the best food choices.</b> It is possible for me to identify which foods promote good health?		2	6
<b>t. Ability to use health information in real life.</b> Can I adequately use the health information that I find on the internet?	5	6	5
<b>u. Ability to read documents like diagnoses, blood tests etc.</b> Is it possible for me to understand a medical diagnosis or results of a blood test, without a medical professional that explains it to me?	1	1	1

<b>y. Make online health procedures.</b> Can I handle a medical consultation online?	3	5	
<b>z. Health service to be used 24 Hours.</b> Can I find online a pharmacy that is open at night?	6		

The question related to knowing which "**z. Health service to be used 24 Hours**" does not represent great difficulty for the participants, followed by "**n. Ability to understand health information**", "**j. Identify what is important to accept/or not in medical documents**", and "**g. know how to look for more information**".

Questions q, r, and y were the ones with more discrepancies among age groups:

The 50+ group selected the use of social media for getting health information (question **q**) as the 2<sup>nd</sup> most relevant difficulty, while the other two groups selected them as the less relevant. There may be several reasons for it, like the lack of familiarity with technology, difficulties sorting through information that not all of it is accurate or reliable and trust issues, as older adults may be more sceptical of information they find online, especially if they have had negative experiences with misinformation or scams in the past.

The 36-50 group selected the Identification of best food choices (question **r**), as the 2<sup>nd</sup> most relevant difficulty, while the other two groups did not find it relevant. Some potential reasons can be the life stage, as people in these group may have more free time and energy to focus on learning about healthy eating habits, cooking and meal planning, the experience of people in the older age group about healthy eating habits over time, prioritization, as older and younger adults may be more likely to prioritize health and wellness, and therefore be more motivated to learn about healthy food choices.

In contrast, those in the middle age range (36-49) may be more focused on work and family responsibilities, leaving less time and energy for learning about nutrition and healthy eating habits and marketing, since the 36-50 group may also be subject to more targeted marketing by the food industry, which can make it harder to identify truly healthy food choices amidst misleading health claims.

Finally, the lack of experience, less familiarity with the healthcare system, a greater reliance on personal networks and time constraints may be the reasons behind why the 18-35 age group selected making online health procedures (question **y**) as the third most relevant health literacy difficulty, while the other age groups did not find it relevant.

The difficulties that received the greatest consensus was "**u. Ability to read documents like diagnoses, blood tests etc.**", chosen as the first one by all age groups, followed by "**t. Ability to use health information in real life**" and "**u. Ability to read documents like diagnoses, blood tests etc.**", This was very difficult for the two older age groups.

Table 3 presents data on data literacy.

Table 3 - List of difficulties related to data literacy and order of responses by age group.

<b>DATA LITERACY (Difficulties)</b>	<b>18-35</b>	<b>36-50</b>	<b>51+</b>
<b>b. Identify why it is important to accept or decline access to your private data in an app.</b> In an app, can I understand what is important to accept or deny access to?	6	6	
<b>c. The ability to access your own health data.</b> It is possible for me to log in to an app and access my health information?	-	5	
<b>d. Identify why some health apps are more trustworthy than others.</b> It is possible for me to tell whether one health app is more careful with my personal information than another?	2	3	4
<b>e. Make sure your personal health record is protected.</b> Do I know whether or not my personal health record can be accessed by others without my permission?	1	1	1
<b>f. Decide with whom my personal health record will be shared.</b> If I want, can I grant permission to anyone to access my health data, such as my doctor?	4	2	5
<b>h. Become familiar with saving data digitally.</b> Can I organize my medical documents digitally (on my computer or cell phone)?	-		2
<b>i. Identification of important patient data.</b> Do I have to bring my medical tests to explain my health to my doctor?			
<b>j. Identify what is important to accept/or not in medical documents.</b> Can I read and sign a document accepting the use of my personal data, like General Data Protection Regulation?	5		6
<b>o. Identify the accuracy of health information on the internet.</b> Can I identify the reliability of health information on the Internet?	3	4	3

The questions related to " i. Identification of important patient data", "b. Identify why it is important to accept or decline access to your private data in an app", "c. The ability to access your own health data" and "j. Identify what is important to accept/or not in medical documents" did not represent great difficulty for the participants. Followed by "f. Decide with whom my personal health record will be shared".

The lack of digital literacy, familiarity with paper records, privacy concerns and resistance to change were the main reasons why the 51+ group chose difficulty "h. Become familiar with saving data digitally" as the 2<sup>nd</sup> most relevant difficulty, while the other two age groups did not identify it as relevant.

The difficulty that received the greatest consensus was " **e. Make sure your personal health record is protected**", chosen as the first one by all age groups, followed by " **d. Identify why some health apps are more trustworthy than others.**".



Figure 2 - Activity 3: How do I prefer to receive information? Selected cards by the 18-35 group.

During the third activity, a set of cards with pictures of information media were presented. It was designed to find out which the participants preferred to use to get informed about health. The 6 most preferred media are shown in the table below.

Table 4 - List of the preferred media for the reception of health information.

Type of media (preferred)	18-35	36-50	51+
Step by step			
Video conference		X	
Infographic	X	X	X
Video	X		X
Social media post	X		
Image			
Augmented reality	X	X	
E-mail	X	X	X
Graphs	X		
Chat		X	X
Podcast		X	X
3D			
Newspaper			X
Text only			

“Step by Step”, “Image”, “3D” and “Text Only” were not chosen by any of the age groups, on the other hand, “Infographic” and “e-mail” were chosen by the three age groups. While the 18-36 group prefer “Social media post” and the 36-50 the “Video Conference”, the 51+ opts for the conventional “Newspaper”, the two younger groups revealed they like to use “Augmented Reality”, and the use of “Chat” and “Podcast” is preferred by both the 36-50 and 51+ groups.

For the fourth activity, participants were asked to combine the previous two activities. To do so, they only had to use the difficulty cards that had taken the first two places.

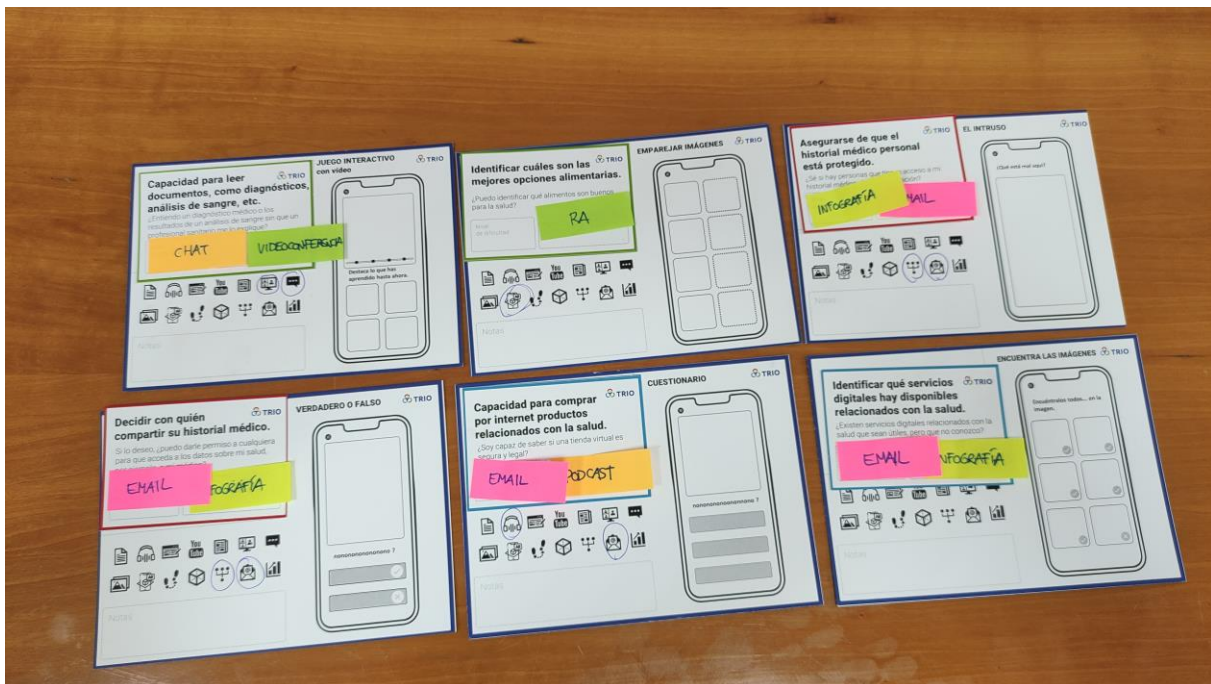


Figure 3 - Activity 4: How can I better understand health information? Results from the 36-50 group



In this last activity, 9 different cards were presented, on the left side there was a blank space to place the difficulty card and a list of icons with types of media to select, as well as a space to write. On the right side of the card there was the design of a drawing of a mobile phone with different types of games. In total, 9 types of games were presented.

This activity aimed to identify the types of games that participants would like to learn through. They had to choose the game they thought best suited the chosen media type and difficulty. Their choice was only the two most difficult games per topic. Below is the data gathered.

Table 5 - The results, information about the difficulty in Digital Literacy, the order number, the preferred media and game.

DIGITAL LITERACY (Difficulties)	18-35			36-50			51+		
	N	MEDIA	GAME	N	MEDIA	GAME	N	MEDIA	GAME
<b>l. Become familiar with information data with graphs.</b>	1	Graphics	Order Images						
<b>p. Understand new types of health information, such as using 3D images of a body.</b>	2	Augmented Reality	Interactive game process						
<b>s. Identify which digital health services are available.</b>				1	e-mail Infographics	Image pairing	1	Newspaper Chat	Sort the paragraphs
<b>x. Ability to buy health products online.</b>				2	e-mail Podcast	Questionnaire	2	Newspaper Infographics	True or false

For each one of the 4 difficulties related to Digital Literacy, different games with different media were chosen, the 18-35 group chose the games “**Image pairing**” with **graphics**, and “**Interactive game with video**” through **Augmented Reality** for difficulties **l** and **p** respectively.

The 36-50 and 51+ groups addressed the same difficulties with different games and media: for the **s** difficulty “**Find hotspots**” through “**e-mail**” and “**Infographics**” was chosen by the 36-50 group, and “**Sort the paragraphs**” with “**newspaper**” and “**chat**” was chosen by the 51+ group.

For the **x** difficulty, “**Quiz**” with “**e-mail**” and “**podcast**” was chosen by the 36-50 group, and “**True or false**” with “**newspaper**” and “**infographics**” was chosen by the 51+ group.

Table 6 - The results, information about the difficulty in Health Literacy, the order number, the preferred media and game.

HEALTH LITERACY (Difficulties)	18-35			36-50			51+		
	N	MEDIA	GAME	N	MEDIA	GAME	N	MEDIA	GAME
q. Make use of the social media for getting health information.							2	Chat e-mail	The intruder
r. Identify the best food choices.				2	Augmented Reality	Image pairing			
u. Ability to read documents like diagnoses, blood tests, etc.	1	Infographics	Image pairing	1	Chat Videoconference	Interactive game with video	1	Chat e-mail	Image pairing
n. Ability to understand health information.	2	Infographics Video	Image pairing						

For the games related to Health Literacy, four main difficulties were selected. For the difficulty " u. Ability to read documents like diagnoses, blood tests, etc." selected by all age groups, were chosen the game types "Image pairing" for the information in a "chat", "e-mail", "videoconference" and "infographics".

The 18-35 and 36-50 groups also selected the "Image pairing" for addressing the difficulties n, through "infographics" and "video", and r, through "augmented reality". "The intruder" was the game chosen by the 51+ group for addressing the q difficulty through "chat" or "e-mail".

Table 7 - The results, information about the difficulty in Data Literacy, the order number, the preferred media and game.

DATA LITERACY (Difficulties)	18-35			36-50			51+		
	N	MEDIA	GAME	N	MEDIA	GAME	N	MEDIA	GAME
d. Identify why some health apps are more trustworthy than others.	2	Social Media	The intruder						
e. Make sure your personal health record is protected.	1	e-mail	True or False	1	Infographics e-mail	The intruder	1	Video Podcast	Interactive game with videos
f. Decide with whom my personal health record will be shared.				2	e-mail Infographics	True or False			
h. Become familiar with saving data digitally							2	Infographics Video	Order Images

For the games related to Data Literacy, four main questions were selected. For the difficulty "e. Make sure your personal health record is protected" selected by all groups, each one of the age groups selected different games and types of media.

The 18-35 group chose "True or false" through "e-mail", the 36-50 group chose "The Intruder" through "e-mail" and "infographics", and the 51+ group chose "Interactive game process" through "video" and "podcast". For difficulty d, the 18-38 group chose "The Intruder" through "social media", the 36-

50 group chose “**True or false**” through “**e-mail**” and “**infographics**”, and the 51+ group chose “**Order mages**” through “**video**” and “**infographics**”.

## The findings

In conclusion, the results showed that there was no homogeneity in the choice of games between the different groups. However, all groups showed a good understanding of all game types and were keen to diversify game types for different difficulties. The only game type that was not chosen was the “**missing words**” game.

The most appreciated types of games were “**Image Pairing**” with four choices, “**Interactive game process**”, “**True or false**” and “**The intruder**” with three choices. With two and one choices we have “**Order Images**”, “**Order paragraphs**”, “**Quiz**” and “**Find images**”.

The methodology adopted was appropriate and had different stages to engage participants, some of which were entertaining, such as the initial icebreaker games, followed by moments of understanding of the problems, discussion and exchange of experiences by brainstorming with the help of the cards. Thus, each of the exercises and games of the workshop were carried out using the templates and the methodology established by the project partnership. All the results were photographed as evidence and subsequently analysed.

The results provided important conclusions for building the platform and identifying functional issues for future workshops. Lastly, the participants evaluated the workshops in terms of their satisfaction, and expressed their appreciation for the teamwork and the fruitful exchange of experiences, which led them to reflect on their own skills in the aforementioned areas. Nevertheless, one observation that was common to all age groups was the difficulty of the last activity, in which they had to relate each type of game to the questions and media previously selected, as they felt that some of the media they had chosen may not be directly applicable to the type of games presented.

The co-creation workshops proved to be a way of getting to know citizens and understanding what the main difficulties were by project focus area and age group. It also allowed us to validate the games and understand their suitability for the each one of the age groups. One of the most important aspects that emerged for the learning platform was to find out that the participants prefer interactive games with simple mechanics that contain a strong visual component and that do not rely as much on the use of a lot of text, and that they like the variety of games for learning.

The organisation of the activities proved to be very functional, and all participants were very satisfied with their performance. The most important factor was the careful planning and the information that was always available about each of the activities. It was also important to reflect on the theme of Digital Literacy for Health, to become aware of the difficulties faced by each individual. In this context, this event also served as a preparation for the next workshops, which will include the learning platform.